respective regions, and together they provide a coordinated and unified nationwide cellular service under the brand name "Mobility Canada". The cellular alliance operates much like the companies' joint long-distance service, Stentor. At the end of 1994, Mobility Canada companies accounted for 58 percent of Canada's cellular market.[177] The second license in each market was given to Rogers Cantel Mobile Inc.[178]

Bell Mobility Cellular (BMC) is the cellular provider affiliated with Bell Canada. BMC operates both an analog and digital cellular network in Ontario and Quebec.[179] The coverage areas served by BMC had an estimated population of 15.7 million as of 1993 and included Canada's two largest metropolitan areas, Toronto and Montreal.[180] BCE Mobile owns all of BMC. BCE owns 65.4 percent of BCE Mobile.[181] BMC operates its own long-distance network and generates revenues from long-distance calls that its customers send or receive.[182] During 1994, BMC subscribership climbed 41 percent from 421,000 to 592,000.[183]

NewTel Mobility Ltd. provides cellular service throughout Newfoundland and Labrador. NewTel Mobility has approximately 80 percent of the cellular market.[184] NewTel Enterprises owns 100 percent of NewTel Mobility.[185]

NBTel Mobility, a wholly-owned subsidiary of Bruncor, provides cellular service in New Brunswick. By the end of 1994, NBTel Mobility had approximately 31,000 sub-

177. BCE MOBILE INC., 1994 ANNUAL REPORT 5 (1995).

178. ITU WORLD TELECOMMUNICATION DEVELOPMENT, *supra* note 6, at 63.

179. BCE MOBILE INC., 1994 ANNUAL REPORT 31 (1995).

180. BCE INC., 1993 SEC FORM 20-F, at 13 (1994).

181. BCE INC., 1994 ANNUAL REPORT 10 (1995).

182. BCE MOBILE INC., 1994 ANNUAL REPORT 30 (1995).

183. *Id.* at 3; BCE INC., 1993 SEC FORM 20-F, at 13 (1994).

184. NEWTEL ENTERPRISES LTD., 1994 ANNUAL REPORT 12 (1995).

185. *Id.*

scribers, following 55 percent growth during the preceding year.[186]

Rogers Cantel operates a nationwide cellular network in competition with Mobility Canada. Rogers Cantel received a license to provide nationwide cellular service from Canada's Department of Communications (DOC) that became effective July 1, 1985 and was renewed April 1, 1991.[187] Since 1985, Rogers Cantel has operated an analog cellular network, and in 1992 the company began to add digital transmission capacity to its network.[188] Rogers Cantel has 42 percent of the Canadian cellular market.[189] Rogers Communications Inc. owns 80 percent of the outstanding shares but 97.6 percent of the voting control of Rogers Cantel.[190]

In December 1992, the DOC awarded four companies, including Rogers Cantel a national license to operate a public digital cordless telephone service (DCT).[191] DCT is the Canadian term for PCS.

THE EUROPEAN UNION

In a majority of the member states of the European Union (EU) the telecommunications industry is dominated by state-owned monopolies.[192] Since the late 1980s, however, the European Commission (EC) has begun dismantling the entry barriers protecting these state monopolies. Early in the process, the EC opened to competition the markets for telecommunications equipment and information service such as elec-

186. BRUNCOR INC., 1994 ANNUAL REPORT 12 (1995).

187. ROGERS CANTEL MOBILE COMMUNICATIONS INC., 1992 ANNUAL REPORT 34 (1993).

188. *Id.* at 6.

189. BCE MOBILE INC., 1994 ANNUAL REPORT 5 (1995).

190. ROGERS COMMUNICATIONS INC., 1992 ANNUAL REPORT 18 (1993).

191. ROGERS CANTEL MOBILE COMMUNICATIONS INC., 1992 ANNUAL REPORT 25 (1993).

192. *Unraveling Europe's telephones*, ECONOMIST, Dec. 3, 1994, at 18.

tronic mail.[193] In 1993, the telecommunications ministers of member countries agreed to liberalize basic phone service in 1998.[194] And in November 1994, the telecommunications ministers decided that the same deadline of January 1, 1998 should also mark the end to the state monopolies' control over the ownership of the wires and switches that carry the telephone traffic.[195] Therefore, with the exception of several smaller countries, members of the European Union must open all sectors of their telecommunications industries to competition by January 1, 1998.

This mandate for competition in the EU's telecommunications markets, however, does not mean that the governments of the member countries must open their markets to foreign investment, nor does the EU mandate state explicitly the number of competitors that each respective member's government will be obliged to license. Against this backdrop of uncertainty, we examine a cross-section of the members of the European Union, each one at a different point on the continuum of privatization and liberalization: the United Kingdom, Germany, and France, Italy, Spain, Portugal, and Sweden.

The United Kingdom

The United Kingdom has the most liberal telecommunications markets in Europe—and perhaps the world. After maintaining British Telecom (now called BT) for decades as the state-owned telephone monopoly, the British government in 1984

193. *Telecoms Liberalisation Reaches Final Stages in EU*, BUS. EUROPE, Nov. 28, 1994.

194. *Spat Over Cable Monopolies Threatens EU Effort to Open Telephone Markets*, WALL ST. J., Nov. 15, 1994, at A11B.

195. *Telecoms Liberalisation Reaches Final Stages in EU*, BUS. EUROPE, Nov. 28, 1994.

began a policy of privatization and liberalization.[196] The government initiated its liberalization of the industry first by licensing Mercury, a subsidiary of Cable & Wireless, to compete against BT in the delivery of long-distance telephone service.[197] In the years since, the government has aggressively introduced competition in its major communications markets—telephony, cable television and cable telephony, and wireless communications. In opening these markets to competition, the British government opened them also to foreign investment, an opportunity to which American firms in particular responded.

Telephony. Although BT's principal competitor, Mercury, is only 20 percent foreign-held—Bell Canada owns 20 percent, while Cable & Wireless owns the rest—the British telecommunications industry is markedly open to potential competition, even from foreign-owned entities. Since 1994, the British government has issued many new "public telecommunications operator" licenses.[198] Recipients included Sprint, IDB Communications of California, Vidéotron (a Canadian cable television company), Telia (the Swedish state telephone company), Telstra of Australia, and Norweb (a British electricity company).[199] In late 1994, the British government added AT&T to this list.[200] As a public telecommunications operator, each of

196. *See* U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, U.S. TELECOMMUNICATIONS SERVICES IN EUROPEAN MARKETS 49 (Government Printing Office 1993) [hereinafter OTA REPORT]; C.D. FOSTER, PRIVATIZATION, PUBLIC OWNERSHIP AND THE REGULATION OF NATURAL MONOPOLY 128-30 (Blackwell Publishers 1992); JOHN VICKERS & GEORGE YARROW, PRIVATIZATION: AN ECONOMIC ANALYSIS 194-241 (MIT Press 1988).

197. OTA REPORT, *supra* note 196, at 49.

198. Richard Hudson, *Sprint, Five Other Phone Companies Receive Licenses to Expand in Britain*, WALL ST. J., Apr. 7, 1994, at A10.

199. *Id.*

200. Alan Cane, *AT&T wins UK licence for full range of telephone service*, FIN. TIMES, Dec. 21, 1994, at 1.

these companies is authorized to provide domestic, switched voice and data services, private line and "international simple resale" services.[201] A provider of international simple resale services must lease capacity from BT or Mercury to carry calls both originating and terminating in the U.K.; the reseller may not be a facilities-based international carrier. After the British government granted AT&T a public telecommunications operator's license, the Federal Communications Commission awarded BT the analogous license for the U.S., which authorizes BT to offer telephone and data services in the U.S., as well as international simple resale.[202]

Cable Television and Cable Telephony. In 1990, the British government abolished foreign ownership restrictions for cable television licenses.[203] But it was not until the following year—when cable operators were given permission to switch telephony traffic over their own networks and to interconnect with the networks of BT, Mercury, or other cable companies—that significant foreign investment flowed into the British cable industry.[204] These two regulatory developments in the U.K. have facilitated competitive entry into local telephony by expanding the pool of potential entrants to include foreign telephone and cable companies that have the necessary technical expertise and financial resources to compete against an incumbent as formidable as BT. In the U.K. it has principally been American and Canadian firms—Bell Canada, NYNEX, Sasktel, U S West, SBC (formerly Southwestern Bell), and TCI—that have introduced (along with Singapore Telecom) the same competition in local telephony and broad-

201. *Id.*

202. Alan Cane, *US lifts restrictions on call connections by BT*, FIN. TIMES, Feb. 2, 1995, at 10.

203. *Multimedia in Britain: Down the line*, ECONOMIST, Nov. 26, 1994, at 76.

204. *Id.*

band services that regulators in the United States and Canada seek to nurture in their home markets.

The three largest cable television/cable telephony operators in the United Kingdom, in terms of homes passed—TeleWest, NYNEX, and Comcast—are all owned and operated by American companies.[205] TeleWest, the largest of all, is a joint venture between TCI and U S West. Both companies have a 36.7 percent interest; the remaining 26.6 percent is widely held following an initial public offering of the shares both on the London exchange and the New York Stock Exchange.[206] TeleWest provides cable television and cable telephony over a broadband network, which, as of September 30, 1994, had been completed in 33 percent of TeleWest's franchise areas.[207] Through sixteen franchises owned and operated by TeleWest and through seven affiliated franchises in which TeleWest owns minority interests, TeleWest is licensed to serve approximately 3.6 million homes and approximately 235,000 businesses in the United Kingdom.[208] As of January 1, 1995, TeleWest had 224,573 cable television subscribers and 183,890 cable telephony subscribers.[209]

NYNEX CableComms (a wholly owned subsidiary of NYNEX) is designing and constructing a broadband network to provide telecommunications and cable television services throughout the United Kingdom.[210] By the end of 1994, NYNEX CableComms' network had passed approximately 673,000 homes, serving 122,000 cable television subscribers

205. MORGAN STANLEY, UK CABLE: SECOND-QUARTER UPDATE: RECOVERING FROM THOSE FIRST-QUARTER BLUES 14 (Sept. 29, 1994).

206. *See* TELEWEST COMMUNICATIONS PLC, PROSPECTUS FOR 108,000,000 ORDINARY SHARES 16 (Nov. 7, 1994) [hereinafter TELEWEST PROSPECTUS].

207. *Id.* at 37.

208. *Id.*

209. TELEWEST COMMUNICATIONS PLC, 1994 ANNUAL REPORT 3 (1995).

210. NYNEX CORP., 1994 ANNUAL REPORT 8 (1995).

and 99,000 residential telephone customers.[211] The completed network will pass approximately 2.7 million homes in 16 franchise areas.[212]
NYNEX CableComms plans a public offering in the first half of 1995; details regarding the offering remain uncertain.[213]

Comcast Corporation (Comcast) beneficially owns 31.2 percent equity interest and controls approximately 81.9 percent of the total voting power of Comcast UK Cable.[214] Comcast UK Cable owns interests in three operating companies: Birmingham Cable Corp. (27.5 percent); Cable London plc (48.9 percent); and Cambridge Holding Company Ltd. (50 percent).[215] The operating companies provide cable television and cable telecommunications services to homes and businesses in their respective areas.[216]

SBC Communications Inc. (SBC), through its international subsidiary, and Cox Cable Communications (Cox) also participate in the British cable television/cable telephony market. They both hold 50 percent of a common joint venture which owns and operates combined cable television and telephone systems in eight franchise areas in northwest and central England, covering an area with 1.3 million homes.[217] At the end of 1994, the SBC and Cox operations passed more than 500,000 homes with its cable television network, providing cable television service to approximately 117,000 subscribers and passed more than 400,000 homes with its cable telephony network, providing cable telephony service to ap-

211. *Id.*

212. *Id.*

213. Judy Webber, REUTERS, Feb. 28, 1995.

214. COMCAST CORP., 1994 SEC FORM 10-K, at 2 (1995).

215. *Id.* at 5.

216. *Id.*

217. *Cox Boosts UK Venture Stake*, WALL ST. J., Oct. 31, 1994, at B10; SBC COMMUNICATIONS INC., 1994 ANNUAL REPORT 15 (1995).

proximately 114,000 subscribers.[218] SBC and Cox share management of the cable operations.[219]

The economics of the joint provision of cable television and cable telephony allow cable television/telephony operators to pass along the cost savings to their customers. This factor combined with the favorable regulatory environment have nurtured the accelerated development of cable television and telephony networks throughout the United Kingdom. Existing cable licenses cover about 70 percent of the 24 million homes in the United Kingdom.[220]As of January 1, 1995, approximately 4.2 million homes in those franchise areas had access to cable services.[221] Slightly more than 900,000 homes had subscribed to cable television service, and just over 715,00 had subscribed to cable telephony services. TeleWest reported in 1994 that it had gained 20 percent of the residential telephony market from BT in cities where Telewest has installed its network.[222]

To be sure, regulators in the United Kingdom have favored entrants. BT is constrained to charge a uniform price across the country, and thus may not reduce prices in an individual location to deter entry or match competitors there.[223] BT is also subject to a ten-year moratorium (lasting till 2001) on entry into the video market.[224] Finally, cable telephony providers receive a subsidy in their interconnection charge to BT's network.[225] Although the charge for interconnecting to BT's network includes a component representing the entrant's compensation for BT's contribution to universal-

218. SBC COMMUNICATIONS INC., 1994 SEC FORM 10-K, at 7 (1995).

219. *Id.*

220. Andrew Adonis, *Cable network may land government a £1bn windfall*, FIN. TIMES, Aug. 15, 1994, at 6.

221. TELEWEST COMMUNICATIONS PLC, 1994 ANNUAL REPORT 3 (1995).

222. Larry J. Yokell, *Cable TV companies move into telecom markets*, BUS. COMM. REV., Nov., 1994, at 43.

223. TELEWEST PROSPECTUS, *supra* note 206, at 52.

224. *Id.* at 76.

225. *Id.* at 75.

service obligations, the Director General of Oftel, Britain's regulatory agency for telecommunications, has exercised his discretion to rule that this "access deficit contribution" need not be paid until the interconnecting operator (a term which includes cable telephony firms, among others) has achieved a market share of 25 percent.[226] Because the U.K. is the only country in which cable telephony is operational, it is unclear whether such entry would have occurred without this interconnection subsidy allowed by Oftel. Further, if such a subsidy is necessary to induce entry, it is unclear whether a similar policy should be followed more generally to encourage the development of interactive broadband systems that would need to interconnect with the existing networks for local telephony or cable television.

Notwithstanding these preferences for entrants, it is possible that the greatest stimulus for the U.K. cable and cable telephony markets has been foreign investment by telephone companies. Lehman Brothers reports that "the UK has become a model for how the cable television and telephone industries are expected to converge in the US and in other countries, because the ability to offer dual services is so compelling."[227] As of January 1, 1994, over 98 percent of cable subscribers in the U.K. who were also subscribing to cable telephony service were served by cable operators owned in whole or part by a foreign telephone company.[228] Moreover,

226. *See* WISSENSCHAFTLICHES INSTITUT FÜR KOMMUNIKATIONSDIENSTE & EUROPEAN-AMERICAN CENTER FOR POLICY ANALYSIS, NETWORK INTERCONNECTION IN THE DOMAIN OF ONP: STUDY FOR DG XIII OF THE EUROPEAN COMMISSION, FINAL REPORT 191 (Nov. 1994); TELEWEST COMMUNICATIONS PLC, *supra* note 206, at 75.

227. LEHMAN BROTHERS, THE UK CABLE MARKET: BREAKING NEW GROUND 2 (Feb. 17, 1994).

228. Affidavit of Oliver E. Williamson, at 14 (May 31, 1994), submitted on behalf of Motion of Bell Atlantic Corporation, BellSouth Corporation, Nynex Corporation, and Southwestern Bell Corporation to Vacate the Decree, United States v. Western Elec. Co., No. 82-0192 (D.D.C. filed July 6, 1994).

the rapid growth in cable subscribership did not begin until these telephone companies entered the market:

> Until 1990–91, cable television had been slow to develop in the UK, and there had been limited experience in broadband networks among domestic companies. However, US and Canadian cable and telephone companies were more familiar with wireline transport and cable television, and viewed the UK as a growth opportunity not just because of the underlying market potential but also because of its applicability to their domestic core business . . . . [T]he potential to offer telephony along with video services provided North American operators with a sophisticated network platform which could be utilised to test both technical and marketing applications of a full service network several years in advance of their introduction in the US.[229]

In response, BT cut weekend rates by as much as 60 percent[230] and, more recently, entered into an agreement with BSkyB pursuant to which the DBS company would offer its video subscribers discounts on BT's telephony services.[231]

Wireless. In the mid-1980s, when the cellular industry was beginning to take root across much of Europe, most European governments simply extended the reach of their telecommuni-

229. LEHMAN BROTHERS, *supra* note 227, at 43.

230. Richard Hudson, *BT Cuts Rates on Phone Calls As Much as 60%*, WALL ST. J., Nov. 2, 1993, at A19.

231. Raymond Snoddy, *BT Links with BSkyB to Beat Cable Challenge*, FIN'L TIMES, Nov. 12, 1994, at 4.

cations monopolies to the new technology.[232] But the British government licensed two cellular operators (Vodafone and Cellnet), allowing BT to take only a 60 percent share in one of them (Cellnet).[233]

Vodafone is the largest mobile telephony operator in the U.K.[234] It operates both an analog cellular network with 1.52 million subscribers and a digital GSM network with 118,000 subscribers.[235]

Cellnet is the second largest mobile telephony operator in the U.K.[236] It is owned jointly by BT and Securicor, a British communications and security group; BT holds 60 percent, and Securicor holds 40 percent.[237] Like Vodafone, Cellnet operates both an analog cellular network and a digital GSM network. The analog network has 1.54 million subscribers while the digital network has 20,000 subscribers.[238]

Since the issuance of licenses to these two original cellular operators, the British government has issued licenses to two additional mobile telephony operators, Mercury's One-2-One and Hutchison Microtel. Mercury's One-2-One is owned jointly and equally by Cable & Wireless and U S

232. Andrew Adonis, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at IV.

233. *Id.*

234. Alan Cane, *Cellnet in £700m plan to overtake Vodafone*, FIN. TIMES, Feb. 15, 1995, at 8.

235. Andrew Adonis, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at IV.

236. Alan Cane, *Cellnet in £700m plan to overtake Vodafone*, FIN. TIMES, Feb. 15, 1995, at 8.

237. *Id.*

238. Andrew Adonis, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at IV; Alan Cane, *Cellnet in £700m plan to overtake Vodafone*, FIN. TIMES, Feb. 15, 1995, at 8.

West.[239] One-2-One operates a PCN network that covers only about 30 percent of the U.K. population.[240]

Hutchison Microtel operates a PCN network called Orange. The largest shareholder in Hutchison Microtel is Hutchison Whampoa, the Hong Kong conglomerate.[241] As of 1995, the network covers 65 to 70 percent of the U.K. population.[242]

Germany

With the exception of minority investments in two mobile telephone service operators and the opportunity for participation in certain other niche markets, foreign investors are, for the most part, excluded from the German telecommunications industry. Germany has no legal restriction on foreign ownership of a telecommunications operator. To date, however, foreign direct investment has only existed in the form of minority interests in a market entrant, with the majority stake held by one or more large German corporations. With the imminent introduction of competition to Germany's telecommunications markets on January 1, 1998—as mandated by the EC—many foreign telecommunications firms have entered into partnerships with some of Germany's largest industrial companies, each partnership hoping that with the proper mix of foreign telecommunications expertise and domestic capital and political influence it will succeed in capturing part of Germany's $41.6 billion telecommunications market.[243]

239. Andrew Adonis, *Thomson Directories bought by U S West*, FIN. TIMES, May 20, 1994, at 19.

240. Andrew Adonis, *Mercury to double its mobile reach*, FIN. TIMES, Oct. 19, 1994, at 9.

241. *Id.*

242. *Id.*

243. Greg Steinmetz, *Deregulation Plans In Germany Face Union Resistance*, WALL ST. J., Apr. 25, 1995, at A17.

Telephony. Telecommunications in Germany traditionally have been the province of the German ministry of posts, telephone and telegraph, and the ministry has consistently nurtured Deutsche Telekom's monopoly over telephony and terrestrial networks. Recently, however, the ministry has begun a series of steps toward partial privatization of Deutsche Telekom. In 1990, Deutsche Telekom became a public company,[244] and on January 1, 1995, Deutsche Telekom and Deutsche Bundespost became separate stock companies.[245] The partial privatization will culminate in the public sale of one-third of all outstanding shares of Deutsche Telekom, with the German government holding the remaining two-thirds.[246]

The sale will be completed in two offerings, the first in 1996, the second sometime before 2000.[247] Deutsche Telekom is valued at between $45 billion and $60 billion. The planned one-third offering will be one of the world's largest ever and will have a total value equivalent to nearly 10 percent of all shares traded on the German stock market.[248] The ministry had originally planned to sell only 40 percent of the offerings on overseas markets; but because of the size of the sale, at least 50 percent of the offerings—or 17 percent of the total outstanding shares—will likely be sold on foreign exchanges.[249] Deutsche Telekom plans to place more than one fourth of the first offering in the United States.[250]

244. OTA REPORT, *supra* note 196, at 51.

245. *Privatisation: Germany PTT sale cleared*, BUS. EUROPE, July 18, 1994.

246. Silvio Ascarelli, *Deutsche Telekom Official is Concerned Privatization Will Overwhelm Markets*, WALL ST. J., Feb. 3, 1995, at A7J.

247. *Id.*

248. Richard Hudson & Audrey Choi, *Deutsche Telekom's Monopoly Status Weighs Heavily on Privatization Plan*, WALL ST. J., Nov. 17, 1994, at A20.

249. Michael Lindemann, *Deutsche Telekom may place more shares outside Germany*, FIN. TIMES, Feb. 3, 1995, at 21.

250. Steinmetz, *Deregulation Plans In Germany Face Union Resistance*, *supra* note 243, at A17.

To maximize revenue from the public offering, the German government has decided to maintain Deutsche Telekom's monopoly status over voice telephony and terrestrial networks until the EC's January 1, 1998 deadline for opening communications markets.[251] In 1998, the German government will be compelled to license companies to compete with Deutsche Telekom, but the manner in which the government will introduce competition remains unclear.

Under the German Law on Telecommunications Installations, the Minister for Postal and Telecommunications Services has the sole authority to grant licenses for the exercise of the right to erect and operate telecommunications installations.[252] The Minister also sets the terms and conditions upon which such licenses are granted.[253] In April 1995, Wolfgang Boetsch, Germany's Minister of Posts and Telecommunications, said that Germany will open all remaining telecommunications markets to full competition by January 1, 1998, thereby eliminating restrictions on foreign entry.[254] Boetsch suggested that the German parliament might pass such reform legislation by the middle of 1996, allowing for the issuance of licenses by the middle of 1997, so that entrants may be fully prepared to commence operations by January 1, 1998.[255] Boetsch said that the new regulatory framework will be based on the following four principles:

> (1) Competition is the basis for assuring the supply of modern and affordable telecom-

251. Nathaniel C. Nash, *Germany's Telephone Pie Is Just Too Big to Pass Up*, N.Y. TIMES, Jan. 30, 1995, at D1.

252. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 23 (1994).

253. *Id.*

254. Jim Rogers, *German Telecom Official Outlines Country's New Open Market Policy*, WASH. TELCOM WEEK, Apr. 7, 1995, at 1.

255. *Id.*

> munications services to consumers and businesses;
>
> (2) Aside from guaranteeing universal service, government regulations should confine themselves to effectuate functioning competition with equal opportunities for market participants;
>
> (3) Effectiveness of competition and a constitutionally guaranteed right of free economic activity require that limiting the number of market entrants may occur in the event that allocable resources (such as radio frequencies) are limited; and
>
> (4) Foreign investment in telecommunications activities will be accorded national treatment, meaning no reciprocity requirement will be established.[256]

Boetsch's deregulatory proposal has engendered resistance from the influential Postal Workers Union, which represents German telephone workers.[257] Arguing that the Minister's plan would put Deutsche Telekom at a competitive disadvantage and worsen Germany's unemployment, the union hopes to forestall such broad plans to open Germany's telecommunications markets to full competition. In light of the union's opposition to the proposal and the likelihood that Deutsche Telekom itself will raise objections, the reform of Germany's telecommunications sector remains unclear, particularly because the deregulation plan needs the approval of the German government, whose upper house is controlled by the Social

256. *Id.*

257. Steinmetz, *Deregulation Plans In Germany Face Union Resistance*, *supra* note 243, at A17.

Democrats. The party is expected to protect the interest of the postal union and its 548,000 members.[258]

While it remains unclear how many licenses the government will issue and what powers these licenses will bestow, many foreign telecommunications companies with the managerial and technological expertise to compete with Deutsche Telekom are forming partnerships with major German corporations that wield considerable financial power and political influence, so that together they might become a telecommunications operator in Germany.

Most of the joint ventures being formed are similar. A large foreign telecommunications firm paired with a large German industrial or utility conglomerate, each with a varying level of equity participation by the foreign telecommunications operator. AT&T is in negotiations with RWE, a $6.6 billion utility that is Germany's biggest electricity generator and the nation's fifth-largest company.[259] With 9,000 miles of telephone lines already in place, RWE currently can reach 50 percent of the German population; it plans to link its own electricity grid with those of six smaller electricity generators and distributors to create a more extensive telecommunications network.[260] The size of AT&T's equity stake in the joint venture is unclear; the issue of control is reportedly the sticking point in the negotiations.[261]

BellSouth entered into a joint venture with German steel-maker, Thyssen.[262] The two companies already work together as part of a consortium that operates E-Plus

258. *Id.*

259. Michael Lindemann, *A buzzing business manoeuvre by RWE—the German utility is expanding in the telecoms market*, FIN. TIMES, Feb. 23, 1995, at 37.

260. *Id.*

261. Greg Steinmetz & John J. Keller, *AT&T, RWE Talk of German Phone Alliance*, WALL ST. J., Feb. 21, 1995, at B12.

262. *Bell South in Thyssen Pact*, N.Y. TIMES, Jan. 25, 1995, at D2; Greg Steinmetz, *Bell South and Thyssen Join to Compete in German Telecommunications Market*, WALL ST. J., Jan. 25, 1995, at A12.

MobilFunk, Germany's third mobile telephony service provider.[263] Thyssen will own 60 percent of the new company, and BellSouth will own 40 percent.[264] Thyssen has indicated that it will invest DM 3 to 4 billion in the joint venture over the next several years.

Cable & Wireless has joined Veba—an oil, chemical, and energy conglomerate—Germany's fourth largest company overall—to participate in the future German telecommunications market.[265] Veba will acquire 10.5 percent of Cable & Wireless for $1.5 billion, but the extent of Cable & Wireless' equity participation in the joint venture is uncertain.[266]

BT is forming a joint venture with Viag, the German energy and industrial conglomerate.[267] BT and Viag will each hold a 37.5 percent interest in a new company, to be called Viag InterKom.[268] Viag's finance director, George Obermeier, has stated explicitly that Viag wants the remaining 25 percent to be held by German companies so that Viag InterKom will have a greater chance of getting a license in 1998. As of mid-1995, BMW is the most likely investor for the last 25 percent.[269]

Finally, Deutsche Aerospace AG (Dasa), a unit of Daimler-Benz, has entered a 50/50 joint venture with Northern Telecom.[270]

263. Michael Lindemann, *Runners and riders poised for the off*, FIN. TIMES, Jan. 12, 1995, at 14.

264. *Id.*

265. Nash, *Germany's Telephone Pie is Just Too Big to Pass Up*, *supra* note 251.

266. *Id.*

267. Lindemann, *Runners and riders poised for the off*, *supra* note 263, at 14.

268. Lindemann, *A buzzing business manoeuvre by RWE—the German utility is expanding in the telecoms market*, *supra* note 259, at 21.

269. Michael Lindemann, *BMW considering 25% stake in telecoms venture*, FIN. TIMES, Jan. 24, 1995, at 22.

270. *Daimler's Dasa Unit, Northern Telecom Plan German Venture*, WALL ST. J., Jan. 11, 1995, at A10.

Wireless. Since opening the cellular market to competition in 1989,[271] the German government has licensed three competing mobile telephone service operators and has stated that, although it will not award any additional licenses through 1996, it will award more licenses thereafter.[272] The three current operators are Deutsche Telekom, Mannesmann Mobilfunk, and E-Plus Mobilfunk.

Deutsche Telekom began offering cellular service over an analog cellular network called C-Netz in 1985. C-Netz was near capacity with 800,000 subscribers as of January 1, 1994.[273] Deutsche Telekom operates another older network, B-Netz, which serves approximately 20,000 subscribers, most of them government workers.[274] Deutsche Telekom created Germany's first digital GSM cellular network, denoted "D1,"[275] which commenced operations in July 1992.[276] By January 1, 1994, 480,000 people had subscribed to the D1 cellular service.[277] Deutsche Telekom benefits from a well-developed distribution channel integrated with its landline service.[278] Deutsche Telekom recently spun off its cellular opera-

271. Karen L. Miller & Gail Edmondson, *"We're Making a 180-Degree Turn,"* BUS. WEEK, Nov. 21, 1994, at 20.

272. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994); Nash, *Germany's Telephone Pie Is Just Too Big to Pass Up*, *supra* note 251, at D1.

273. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994).

274. *Id.*

275. Christopher Parkes, *Jostling for position in German telecoms race*, FIN. TIMES, Sept. 22, 1994, at 25.

276. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994).

277. *Id.*

278. *Id.*

tions into a wholly owned subsidiary called DeTeMobil.[279] In late 1994, DeTeMobil had a 50 percent market share.[280]

When the German government opened the cellular market to competition in 1989, Mannesmann won the first license issued and created Mannesmann Mobilfunk GmbH (MMO).[281] MMO operates one of Germany's three digital cellular systems under the name "D2 Privat," or simply "D2."[282] Mannesmann owns 51 percent of MMO. AirTouch originally owned 29.15 percent of MMO,[283] but recently increased its ownership of MMO to 32.7 percent.[284] Deutsche Genossenschaftsbank, a German commercial bank, owns 10.29 percent of MMO[285] and Cable & Wireless owns 5 percent.[286]

MMO holds a nationwide license. The company has not yet achieved a significant level of penetration. Relative to the entire system population of 80.9 million people.[287] But in the two and half years that D2 has been operational, MMO has already attained a subscribership of 842,000.[288]

AirTouch has played a significant role in designing and operating the D2 network. AirTouch provided a large techni-

279. Mark Newman, *Survey of Mobile Communications*, FIN. TIMES, Sept. 5, 1994, at VIII.

280. Miller & Edmondson, *"We're Making a 180-Degree Turn," supra* note 271.

281. Greg Steinmetz, *Mannesmann Scores With Cellular Service*, WALL ST. J., Feb. 24, 1995, at A6.

282. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 63 (1995).

283. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

284. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 6 (1995).

285. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

286. CABLE & WIRELESS PLC, 1994 SEC FORM 20-F, at 35 (1994).

287. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 62 (1995).

288. *Id.* at 6.

cal staff to design and construct the network; helped develop and install the customer service and billing system; and assisted with business planning, marketing, sales, and distribution.[289]

E-Plus Mobilfunk GmbH (E-Plus) operates the third German mobile telephone service network.[290] E-Plus received Germany's third digital license in February 1993 and began operating its network, "E1," in 1994.[291] E1 operates on different frequencies from those of GSM systems installed throughout Europe.[292] Under the terms of its license, E-Plus must cover 90 percent of the German population by 1997.[293]

The ownership structure of E-Plus matches that of many European telecommunications entrants trying to compete in a niche market against the monopoly incumbent: Large domestic corporations with vast financial resources and political sophistication hold a majority interest while one or two foreign telecommunications companies hold a minority stake. Thyssen and Veba, Germany's two large industrial conglomerates, each owns 28 percent.[294] BellSouth owns 21 percent. Vodafone, the British cellular operator, owns 16 percent, and several lesser investors own the remaining 7 percent.[295]

The German cellular market differs from the American cellular market in several important ways. Per-minute charges are typically higher in Germany than in the U.S. But in Germany there is no additional charge for long-distance services;

289. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

290. Gail Edmondson, *A Feeding Frenzy in European Telecom*, BUS. WEEK, Nov. 21, 1994, at 119.

291. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 13 (1994).

292. *Id.*

293. *Id.*

294. Nash, *Germany's Telephone Pie Is Just Too Big to Pass Up*, *supra* note 251, at D1.

295. Lindemann, *Runners and riders poised for the off*, *supra* note 263, at 14.

and, because the three German licensees hold national franchises, there is no additional roaming charge for any service within Germany.[296] Finally, the calling party in Germany pays for all cellular charges.[297]

France

The French telecommunications industry has a history of government ownership and control. One of the wealthiest countries in the world, France, with a population of approximately 58 million people, has achieved well-developed and sophisticated basic telecommunications services.[298] As of 1992, France had a telephone density of 52.13 lines per 100 inhabitants—compared to 56.49 in the U.S. at the same time.[299] But in the emerging telecommunications markets, such as broadband cable networks and wireless services, France has not achieved the same degree of development as some of its wealthier European neighbors.

As 1998 draws near, France has yet to outline an official plan for liberalization of its telecommunications markets. Despite the introduction of limited competition and some infrastructure liberalization in the cellular telephony industry and the cable television market, France has maintained a fairly closed and highly regulated telecommunications industry. Unlike most evolving PTTs, France Télécom does not need foreign telecommunications expertise. The company could benefit from foreign capital, but to a lesser degree than other reforming national telecommunications operators. France Télécom, however, has global ambitions that require an open domestic market. Its government-owned monopoly heritage, however, hurts France Télécom in this regard because en-

296. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 12 (1994).

297. *Id.*

298. ITU WORLD DEVELOPMENT REPORT, *supra* note 6, at A-3.

299. *Id.*

trenched management and a massive labor force have impeded telecommunications reform.

Regulation. In preparation for the time when effective competition characterizes the French telecommunications industry, the French government, from 1990 to 1995, changed the form of ownership of its national telecommunications operator and the regulatory apparatus under which it is governed. For years, the French government assumed full and direct responsibility for the provision of the nation's telecommunications services and infrastructure. It was not until 1990 that France Télécom became an autonomous corporation. The French government still maintains complete ownership, but now the Direction Generale des Postes et Telecommunications (DGPT) serves as the independent industry regulator.[300] France Télécom has a statutory monopoly over the provision of telecommunications infrastructure, basic voice telecommunications services, and telex service.[301] The markets for data communications services and other value-added services have been opened to limited and regulated competition.[302] License holders may lease circuits to provide value-added network services.[303] Providers of data transmission services have been able to lease network capacity since January 1, 1993.[304] And pro-

300. *France GSM networks are two years from break-even point*, FINTECH MOBILE COMM., Mar. 23, 1995.

301. Godefroy Dang N'Guyen, *Country Study France* 1, *in* WISSENSCHAFTLICHES INSTITUT FÜR KOMMUNIKATIONSDIENSTE & EUROPEAN-AMERICAN CENTER FOR POLICY ANALYSIS, NETWORK INTERCONNECTION IN THE DOMAIN OF ONP: STUDY FOR DG XIII OF THE EUROPEAN COMMISSION: ANNEX TO FINAL REPORT (1994).

302. U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, U.S. TELECOMMUNICATIONS SERVICES IN EUROPEAN MARKETS, 51 (1994).

303. RICHARD CRANSTON, LIBERALISING TELECOMMUNICATIONS IN WESTERN EUROPE 106 (Financial Times Management Reports 1995).

304. *Id.*

viders of virtual private networks to closed user groups may also lease circuits.[305]

With the exception of allowing minority investment in two of the country's cellular operators, the French government has effectively excluded nearly all foreign direct investment in telecommunications. There, of course, exist no opportunities to invest in providers of basic telephony or infrastructure because of France Télécom's monopoly in those areas and the French government's complete ownership of France Télécom. Furthermore, France has an express statutory limitation of 20 percent on foreign direct investment in telecommunications licensees. Thus, even in those markets that have been opened to competition, foreign investment has been limited.

Under the "Contract du Plan"—an agreement between the French government and France Télécom, signed in 1991 and applying to the years 1992-1994—France Télécom became an autonomous state-owned enterprise, exempt from corporate taxation.[306] France Télécom's period of special status under the Contract du Plan was intended to give the government-owned operator an opportunity not only to transform its finances from the previous system of payments to the state to a normal corporate tax regime, but also to pay down some of its high debt,[307] which as of December 31, 1994 was still as high as FFr96.6 billion.[308] In 1994, France Télécom was, for the first time, subject to corporate taxation.[309]

The future of the French telecommunications regulatory apparatus remains uncertain. In June 1993, the French government confirmed that it would open the market for basic voice telecommunications services by 1998 in accordance with

305. *Id.*
306. *Id.* at 106.
307. *Id.*
308. *France Télécom posts profits on FF10 billion in 1994*, TECH EUR., July 6, 1995.
309. *Id.*

the EU mandate.[310] The government, however, has not specified how it will move the telecommunications sector to open competition or how the monopoly incumbent will interact with potential entrants. The French government had proposed to convert France Télécom to a joint stock company with the expectation of a partial privatization; but in July 1995, the government, in response to significant pressure from France Télécom itself and its large and influential labor force, postponed indefinitely any conversion and subsequent privatization.[311]

In the face of continued pressure from outside concerns—including the U.S. with regard to the proposed deal between Sprint, France Télécom, and Deutsche Telekom—to open its telephony monopoly to competition, France has recently taken some initial steps toward greater liberalization. In July 1995, the French government granted MFS Communications permission to construct a fiber-optic loop around Paris to provide private network services to businesses.[312] The French government, however, has expressed no intent to open its telecommunications markets further to competition before the EU-imposed deadline of January 1, 1998. Nor has the French government given any indication of how many communications licenses it will issue in 1998 and to whom. AT&T recently withdrew its offer to purchase Cie. des Machines Bull, the unprofitable computer company, from the French government when French officials made clear that France would not issue a communications license as part of the sale.[313]

The French government has indicated that it will centrally plan much of the development of its nation's advanced

310. CRANSTON, *supra* note 303, at 112.

311. Douglas Lavin, *France Puts Off Telecom Privatization*, WALL ST. J., July 12, 1995, at A10.

312. Gail Edmondson & Julia Flynn, *Missing the Wake-up Call*, BUS. WK., July 10, 1995, at 18.

313. Thomas Kamm, *AT&T Leaves Machines Bull Bidding Team*, WALL ST. J., Feb. 24, 1995, at B6.

information infrastructure. A commissioned report, conducted by former director-general of France Télécom, Gerard Thiery, and published in October 1994, outlined a plan that would require an investment of approximately FFr10 billion over the next fifteen years, with most of the responsibility for finance and construction falling on France Télécom.[314]

Telephony. France Télécom, as mentioned above, retains a monopoly over basic voice telecommunications services and infrastructure. The company also continues to benefit significantly from its monopoly endowment when participating in the few markets that have been opened to competition. With $26 billion in annual revenue, France Télécom is the world's fourth largest telecommunications operator.[315] In 1994, France Télécom earned a net profit of FFr9.9 billion on revenues of FFr142 billion.[316] Its networks systems are highly advanced. France Télécom has a 100 percent digital, state-of-the-art telephone network that ranks as one of Europe's best.[317]

But despite certain advantages it has inherited as the monopoly incumbent, France Télécom is saddled with certain baggage that will impede its ability to adjust to competition. The company and its revenues are a major prop for French industrial policy.[318] The French government has used France Télécom's cash flow to subsidize parts of the cable industry and such ailing state companies as Groupe Bull and Thomson, which have needed repeated cash infusions.[319] Furthermore, France Télécom has a labor force of 167,000 employees, 90

314. CRANSTON, *supra* note 303, at 113.

315. *With Variations, Sprint Announces European Pact*, N.Y. TIMES, June 23, 1995, at B2.

316. *France Télécom posts profits on FF10 billion in 1994*, *supra* note 308.

317. Edmondson & Flynn, *Missing the Wake-up Call*, *supra* note 312, at 18.

318. *Id.*

319. *Id.*